CLAIMS

1. Method for preparing a medical liquid from a liquid, such as water, and two concentrated solutions, comprising the following steps:

- circulating the liquid in a conduit (15), at a flowrate Q0;

- injecting into the conduit (15), at a flowrate Q1, a first concentrated solution containing a first ionic substance A and a second ionic substance B, the ionic substances A and B having, respectively, in the first concentrated solution, a concentration [Asol] and a first concentration [B1sol];

- injecting into the conduit (15), at a flowrate Q2, a second concentrated solution containing the first ionic substance A and the second ionic substance B, the first ionic substance A having, in the second concentrated solution, the same concentration [Asol] as in the first concentrated solution, and the second ionic substance B having, in the second concentrated solution, a second concentration [B2sol] different than the first concentration [B1sol] in the first concentrated solution;

- regulating the injection flowrate Q1 and the injection flowrate Q2 of the first and second concentrated solutions in such a way that at any given time the diluted solution resulting from the mixing of the liquid and the concentrated solutions has a desired concentration [Ades] of first substance A and a desired concentration [Bdes] of second substance B.

2. Method according to Claim 1, characterized in that it consists in varying over the course of time the injection flowrate Q1 and the injection flowrate Q2 of the concentrated solutions A and B in such a way that the concentration of the second substance B in the diluted solution varies over the course of time in accordance with a predetermined profile.

3. Method according to Claim 2, characterized in that the flowrate Q0 of the liquid in the conduit is constant, and in that the sum of the injection flowrates Q1 + Q2 of the concentrated solutions A and B is maintained constant in such a way that the concentration of the first substance A in the diluted solution remains substantially constant.

4. Method according to one of Claims 1 to 3, characterized in that it consists in varying over the course of time the injection flowrate Q1 and the injection flowrate Q2 of the concentrated solutions A and B in such a way that the concentration of the first substance A in the diluted solution varies over the course of time in accordance with a predetermined profile.

5. Device for preparing a treatment liquid from a liquid, such as water, and two concentrated solutions, comprising:

- a conduit (15) with a first end intended to be connected to a source of liquid, such as water, and a second end for delivering a treatment liquid;

- first injection means (19) for injecting into the conduit (15), at a flowrate Q1, a first concentrated solution containing a first ionic substance A and a second ionic substance B, the ionic substances A and B having, respectively, in the first concentrated solution, a concentration [Asol] and a first concentration [B1sol];

- second injection means (22) for injecting into the conduit (15), at a flowrate Q2, a second concentrated solution containing the first ionic substance A and the second ionic substance B, the first ionic substance A having, in the second concentrated solution, the same concentration [Asol] as in the first concentrated solution, and the second ionic substance B having, in the second concentrated solution, a second concentration [B2sol] different than the first concentration [B1sol] in the first concentrated solution;

- regulating means (20, 23, 30) for regulating the first and second injection means (19, 22) and for adjusting the injection flowrate Q1 and the injection flowrate Q2 of the

first and second concentrated solutions in such a way that at any given time the diluted solution resulting from the mixing of the liquid and the concentrated solutions has a desired concentration [Ades] of first substance A and a desired concentration [Bdes] of second substance B.

6. Device according to Claim 5, characterized in that the regulating means (20, 23, 30) are provided for varying over the course of time the injection flowrate Q1 and the injection flowrate Q2 of the concentrated solutions A and B in such a way that the concentration of the second substance B in the diluted solution varies over the course of time in accordance with a predetermined profile.

7. Device according to either of Claims 5 and 6, characterized in that the regulating means (20, 23, 30) are provided for varying over the course of time the injection flowrate Q1 and the injection flowrate Q2 of the concentrated solutions A and B in such a way that the concentration of the first substance A in the diluted solution varies over the course of time in accordance with a predetermined profile.

8. Device according to Claim 6, characterized in that the regulating means (20, 23, 30) are provided for maintaining constant the sum of the injection flowrates Q1 + Q2 of the concentrated solutions A and B, in such a way that, for a constant flowrate Q0 of the liquid in the conduit, the concentration of the first substance A in the diluted solution remains substantially constant.

9. Device according to one of Claims 1 to 8, characterized in that the substance A is sodium, and in that the substance B is potassium, calcium, or magnesium.

10. Device according to Claims 6 and 9, characterized in that the substance B is potassium, and in that the predetermined concentration profile is a descending profile whose initial value is between approximately 2.5 mEq/l and approximately 5.5

mEq/l and whose final value is between approximately 1 mEq/l and approximately 2 mEq/l.

11. System for extracorporeal treatment of blood comprising:

- a device for preparing treatment liquid according to one of Claims 5 to 10;
- a conduit (12) for supply of treatment liquid, for connecting the conduit (15) of the treatment device to an inlet of a membrane exchanger (1);
- a conduit (13) for removing spent liquid, intended to be connected to an outlet of the membrane exchanger (1);
- a first device for measuring the concentration of the ionic substance B in the treatment liquid, arranged on the preparation conduit;
- a second device for measuring the concentration of the ionic substance B in the spent liquid, arranged on the removal conduit.

12. Treatment system according to Claim 11, characterized in that the regulating means (20, 23, 30) are provided for regulating the first and second injection means (19, 22) on the basis of the information supplied by the first and second devices for measuring the concentration of the ionic substance B.

13. Treatment system according to either of Claims 11 and 12, characterized in that it additionally comprises means (10, 11, 12) for infusing a patient with a third solution containing at least one ionic substance C absent from the treatment liquid.

14. Preparation device according to Claim 13, characterized in that the substance C is bicarbonate.

15. Kit of solutions for extracorporeal treatment of blood, comprising two concentrated solutions containing at least two ionic substances A and B, the ionic substance A having the same concentration in the two solutions and the ionic substance B having different concentrations in the two

solutions.

16. Kit of solutions according to Claim 15, characterized in that it comprises two solutions which are identical except for one ionic substance whose concentration differs from one solution to the other.

17. Bag (50) with two compartments (51, 52) for containing each of the solutions from the kit according to Claims 15 and 16.